

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
6 October 2005 (06.10.2005)

PCT

(10) International Publication Number  
WO 2005/091938 A3(51) International Patent Classification<sup>7</sup>: F16K 31/00

(21) International Application Number: PCT/US2005/006764

(22) International Filing Date: 2 March 2005 (02.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/550,923 5 March 2004 (05.03.2004) US

(71) Applicant (for all designated States except US): WATERS INVESTMENTS LIMITED [US/US]; 109 Lukens Drive, New Castle, Delaware 19720 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): KEENE, Russell [US/US]; 66 Beechwood Avenue, Sudbury, MA 01776 (US). FRISWELL, David, R. [US/US]; 134 South Street, Upton, MA 01568 (US).

(74) Agent: JANIUK, Anthony, J.; Waters Corporation, 34 Maple Street, Milford, MA 01757-3696 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

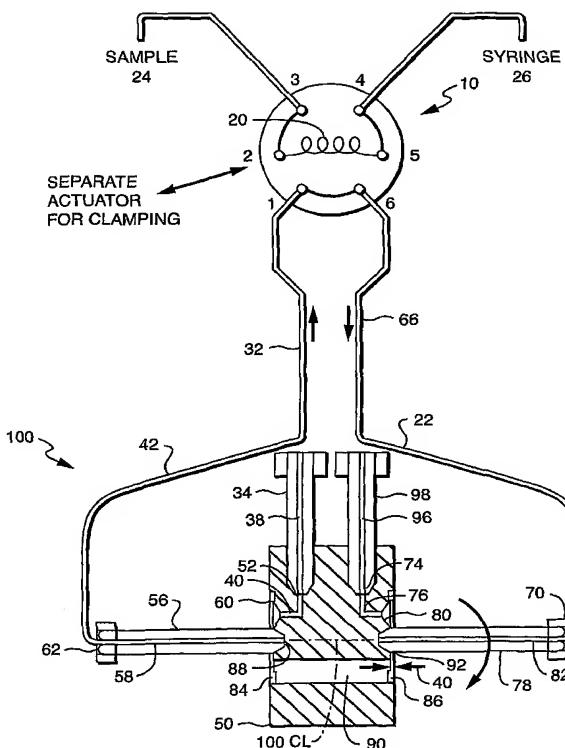
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: FLOW THROUGH ISOLATION VALVE FOR HIGH PRESSURE FLUIDS



(57) Abstract: A flow through isolation valve having a stationary member; a movable member, with a surface of the stationary member interfacing with a surface of the movable member; and at least one pin isolation valve. The pin isolation valve has a flow through internal conduit and is movable so that the internal conduit can fluidically communicate with at least one blank opening in the movable member and with a flow through internal conduit in the movable member. Movement is by rotation, linear or curvilinear translation. At least one pin isolation valve is fluidically coupled typically to a sample loop of a face seal valve, or to a pump supplying high pressure liquid to or to a column discharging liquid from a face seal valve of a high pressure liquid chromatography (HPLC) system or directly to the face seal valve.



— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

16 March 2006